

Unit 2

Day 2

Roots and Radicals

Pre-1.7 Rationalizing

Rationalize the denominator.

1)

$$\frac{5}{\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \frac{5\sqrt{7}}{\sqrt{(7)^2}} = \frac{5\sqrt{7}}{7}$$

2)

$$\begin{array}{r}
 125 \\
 \swarrow \searrow \\
 5 \quad 25 \\
 \swarrow \searrow \\
 5 \quad 5
 \end{array}$$

$$\frac{7}{\sqrt[5]{125}} \cdot \frac{\sqrt[5]{5^2}}{\sqrt[5]{5^2}} = \frac{7\sqrt[5]{5^2}}{\sqrt[5]{(5)^5}} = \boxed{\frac{7\sqrt[5]{25}}{5}}$$

↑

$$\frac{2}{\sqrt[4]{3}} \cdot \frac{\sqrt[4]{3^3}}{\sqrt[4]{3^3}} = \frac{2\sqrt[4]{27}}{\sqrt{(3)^4}} = \frac{2\sqrt[4]{27}}{3}$$

$$\frac{10}{\sqrt[5]{9x} \cdot \sqrt[5]{3^3 x^4}} = \frac{10 \sqrt[5]{27x^4}}{\sqrt[5]{(3x)^5}} = \frac{10 \sqrt[5]{27x^4}}{3x}$$

Do now and finish for homework

3 Worksheets (2 simplifying, and 1 Rationalizing)